

REMARKS

The Examiner, Mr. Farahani, is thanked for the courtesy extended applicants' attorney during the interview of September 16, 2003, during which time proposed amendments to the claims were discussed, and as indicated in the Interview Summary, it was indicated that language which more clearly define the physical position of the conductors of the instant application, such as their extension, go through the corners of the chip, will overcome the reference.

By the present amendment, in accordance with the discussion with the Examiner, each of independent claims 1, 7 and 12 have been amended to recite the feature of "such that an extension of the one respective end of at least one of said plurality of conductors extends diagonally through a corner of said semiconductor chip", and applicants submit that such feature patentably distinguishes over the cited art as will become clear from the following discussion.

As discussed with the Examiner at the interview, in accordance with the present invention, and as illustrated in Fig. 1, the semiconductor chip 2 has a main surface with a quadrilateral shape, and in accordance with the present invention, a plurality of conductors are disposed on the one surface of the substrate to surround the semiconductor chip along the four sides thereof with the conductors being arranged so as to extend with one respective end thereof in a radial pattern toward the semiconductor chip. That is, as apparent from Fig. 1, while the leads 4 have one end arranged perpendicular or parallel to a side of the semiconductor chip, the end of the conductor closest to the side of the semiconductor chip extends generally at an angle to a side of the semiconductor chip, other than the conductor positioned generally at a center of a side of the semiconductor chip. More particularly, it is readily apparent that a respective end of the conductor in the region of a corner of the semiconductor chip extends diagonally through the corner of the semiconductor chip when the end is extended. Accordingly, by the present amendment, each of

independent claims 1, 7 and 12 have been amended to recite the aforementioned feature, which is not disclosed or taught in the cited art, and which obtains a large number of pins and high electrical reliance in a package device by appropriate utilization of conductors extending from the lead frame in the corners thereof. Applicants submit that as recognized by the Examiner at the interview, such recited features are not disclosed or taught in the cited art, and patentably distinguish over the cited art as will become clear from the following discussion.

The rejection of claims 1-5, 7-10 and 12-15 under 35 U.S.C. 103(a) as being unpatentable over Ishikawa et al (U.S. Patent 5,907,190) in view of Japanese patent 59105349 issued to Mori et al, and the rejection of claims 6, 11 and 16 under 35 U.S.C. 103(a) as being unpatentable over Ishikawa in view of the Japanese patent and further in view of Irwin et al (U.S. Patent 5,627,850), such rejections are traversed insofar as they are applicable to the present claims, and reconsideration and withdrawal of the rejection are respectfully requested.

As to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an

obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Turning to Ishikawa et al, irrespective of the Examiner's contention, applicants submit that this patent as discussed with the Examiner at the interview, only shows conductors 5 being connected to a semiconductor chip 2 by way of bonding wires 4. There is no disclosure or teaching in Ishikawa et al of the arrangement of the semiconductor chip nor the plurality of conductors arranged to extend with one respective end thereof in a radial pattern toward the semiconductor chip.

Applicants note that the Examiner refers to the Japanese patent to Mori et al as showing a quadrilateral shaped chip. Although the Examiner does not refer to the conductors of Mori et al, applicants submit that as is apparent from Fig. 1 of Mori et al, the conductors b have one respective end thereof extending in parallel or perpendicular to the sides of the semiconductor chip a. While bonding wires c connect one respective end of the conductors to a bonding pad on the chip and such wires are illustrated as extending in a diagonal direction, for example, applicants note that each of independent claims 1, 7 and 12 further recite the feature of bonding

wires electrically connecting said bonding pads which are provided on the main surface of the semiconductor chip with tips of the conductors respectively. Thus, it is apparent that bonding wires and conductors represent different elements, and Mori et al does not disclose or teach the previously recited feature of the conductors being arranged so as to extend with one respective end thereof in a radial pattern toward the semiconductor chip.

In light of the contention by the Examiner that the term "radial pattern" was very broad, in order to more clearly distinguish over Ishikawa et al and Mori et al, by the present amendment, each of independent claims 1, 7 and 12 has been amended to recite the feature that an extension of the one respective end of at least one of the plurality of conductors extends diagonally through a corner of the semiconductor chip and, as is readily apparent, neither Ishikawa et al nor Mori et al provide any disclosure or teaching of this recited feature, such that applicants submit that each of the independent claims and the dependent claims patentably distinguish over this proposed combination of references in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

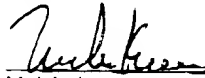
With regard to the further utilization of Irwin et al, applicants submit that it is readily apparent that this patent also fails to disclose or teach a quadrilateral shaped chip and conductors arranged in the manner as defined in the independent and dependent claims, such that all claims also patentably distinguish over this proposed combination of references.

In view of the above amendments and remarks, applicants submit that all claims present in this application patentably distinguish over the cited art and should now be in condition for allowance. Accordingly, issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing

of this paper, including extension of time fees, to Deposit Account No. 01-2135
(501.35250CX3) and please credit any excess fees to such deposit account.

Respectfully submitted,



Melvin Kraus

Registration No. 22,466

ANTONELLI, TERRY, STOUT & KRAUS, LLP

MK/cee
(703) 312-6600

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